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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR     | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|---|-------------|--------------------------|-------------------------------|------------------|
| 10/627,044  | 07/25/2003  | Phillip Andrew Armstrong | 06371 USA                     | 3772             |
| 23543   | 7590        | 12/01/2004               |                               |                  |
| AIR PRODUCTS AND CHEMICALS, INC.<br>PATENT DEPARTMENT<br>7201 HAMILTON BOULEVARD<br>ALLENTOWN, PA 181951501 |             |                          | EXAMINER<br>BUSHEY, CHARLES S |                  |
|   |             |                          | ART UNIT                      | PAPER NUMBER     |
|   |             |                          | 1724                          |                  |

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/627,044

Applicant(s)

ARMSTRONG ET AL.

Examiner

Scott Bushey

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2004 and 07 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,15 and 16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10,13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7-25-03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group I, claims 1-14 in the reply filed on October 5, 2004 is acknowledged. The traversal is on the grounds that there would be no serious burden on the Examiner to search multiple classes of patent material, as well as vast areas of non-patent literature which pertain to cryogenic separation processes and methods of assembling a contact apparatus, such areas which do not directly pertain to the specific contact apparatus, as set forth by elected claims 1-14. This is not found persuasive because none of the elected claims 1-14 require the apparatus, as claimed therein to operate by the process as set forth by instant claim 15, or to be assembled in the manner, as set forth by instant claim 16.

The requirement is still deemed proper and is therefore made FINAL.

With respect to the election without traverse to prosecute the species of the invention referred to in the election requirement as Species A, such is noted. With respect thereto, it appears that claims 1-3, and 6-14, among the claims of the elected invention, read on the elected species, and thus have been examined herein.

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Specification***

3. The disclosure is objected to because of the following informalities: 1) page 2, line 28, "6,288,818" should be replaced by --6,286,818--; 2) page 7, line 15, "t" should be changed to read --It--; 3) page 15, line 11, "toward" is misspelled.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 8, 13, and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Alleaume et al (Figs. 4 and 5).

Applicant should note that the wiper rings in each of the embodiments of Figures 4 and 5 of the reference each perform collecting liquid at the wall, transmitting the liquid toward the central longitudinal axis of the column and dispensing the liquid from the transmission means to the underlying structural packing layer. Applicant must recognize that the phrase "a substantial distance" across the cross-sectional area of the exchange column does not require a particular threshold of distance, and in view of the fact that the claims must be given their broadest reasonable interpretation, the reference must be considered to anticipate the claimed invention with respect thereto.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 6, 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier et al.

Meier et al (Figs. 1 and 2) substantially disclose applicant's invention as recited by instant claims 1-3, 6, 7, 13, and 14, except for a specific recitation that the packing is spaced from the column wall and how the wall wiper (9) is attached to the column wall, i.e., fixed or movable. Wherein it is well known within the art that wall effect maldistribution of liquid within a column having structural packing is a common problem, it would have been obvious to an artisan at the time of the invention, to space the packing from the wall, to minimize short circuiting of the liquid along the wall of the column. Furthermore, it is also well known within the art to either fix or allow the wiper to float within the column, it would have been obvious to an artisan at the time of the invention, to choose either means for locating the wall wiper at the desired level within the column. Applicant should note Harper '150, which teaches sealing a wiper to the column wall without fixedly attaching it thereto.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alleaume et al taken together with Harper '150.

Alleaume et al (Figs. 4 and 5) as applied above substantially disclose applicant's invention as recited by instant claims 6 and 7, except for a specific recitation as to how the wall wiper means are attached to the column wall. The reference does appear to indicate that the wipers are seal welded to the column wall (note col. 3, lines 24-26). In any event, fixedly welding wiper means to a column wall is well known within the art.

Harper '150 teaches that it is also conventional within the art to attached wipers within a column in a movable manner. It would have been obvious to an artisan at the time of the invention, to attach wiper means to the column wall in either a fixed or movable manner, in view of the teaches by the prior art references, such attachments allowing for either a strong fixed

Art Unit: 1724

wiper, or a flexible movable wiper, as required by the operational parameters of the process being practiced.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alleaume et al taken together with Harper et al '913.

Alleaume et al (Figs. 4 and 5) as applied above substantially disclose applicant's invention as recited by instant claims 9 and 10, except for support means being in the form of elongated channels or having apertures for dispensing the collected liquid.

Harper et al '913 (Figs. 1-3) disclose elongated channel means having apertures for dispensing liquid collected by wall wiper means (34). Wherein the braces (29) of Alleaume et al clearly define open bottom channels, which communicate with the wall wiper means (28 in Fig. 4), it would have been obvious to an artisan at the time of the invention, to modify the channel structures of the primary reference, in view of Harper et al '913, to have discrete apertures to therefore better control the dispensing of the liquid to the next lower packing level.

#### ***Allowable Subject Matter***

11. Claims 11 and 12 are allowed.

#### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is (571) 272-1153. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00PM.


Art Unit: 1724

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Bushey  
Primary Examiner  
Art Unit 1724

csb  
11-29-04



11-29-04